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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,993	02/19/2004	Graeme Huntley	M00A256	5331

7590 03/13/2007  
Ira Lee Zebrak  
The BOC Group, Inc.  
Legal Services - Intellectual Property  
575 Mountain Ave.  
Murray Hill, NJ 07974

EXAMINER
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HAMO, PATRICK

ART UNIT	PAPER NUMBER
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3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/781,993

Applicant(s)

HUNTLEY, GRAEME

Examiner

Patrick Hamo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 19 Feb 04, 27 Feb 06 (2 pages).

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because solid black shading as used in figure 3 is not permitted and reduces the legibility of the drawing. See 37 CFR 1.84(m). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5-8, and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Toshiaki, JP 2004-147454.

Toshiaki discloses a method of reducing vibration in a pumped system comprising the steps of measuring a first vibration with a vibration or sway detector 27 attached to a flange 37 of the pump (claim 6), generating a control signal in a controller 10, 14 in response and sending the signal to a magnetic bearing 30 of a rotary device, a turbomolecular pump that reduces the pressure in a chamber in a preferred embodiment (Detailed Description, para. [0028-0029]), thereby producing a second vibration, the second vibration being out of phase with the first vibration (fig. 8) so as to negate the vibration (claim 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshiaki, JP 2004-147454.

Toshiaki discloses all the limitations substantially as claimed and discussed above and that the vibration or sway detector 27 can be installed in the flange of the pump (claim 6) or the flange of the chamber being pumped (claim 7). Toshiaki does not

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disclose the claimed limitations that the vibration is measured at a process chamber or at an inlet of the pump.

However, these claimed limitations constitute a mere rearrangement of parts and fail to patentably distinguish over the prior art because shifting the position would not have substantially modified the operation of the device. See MPEP §2144.04(6)(c)

6. Claims 1, 4 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conrad et al., 7,033,142 in view of Toshiaki.

Conrad discloses a vacuum pump system with an intermediate pump 7 directly connected to a high-vacuum turbomolecular pump 3, 4 (col. 2, ll. 1-3), wherein the turbomolecular pump is used to create a vacuum in a chamber receiver 2 and the intermediate pump is used to deliver gas from the outlet of the turbomolecular pump to another pump unit to deliver to atmosphere (col. 3, ll. 3-9) and it was obvious because of the contact between the intermediate pump and the turbomolecular pump at the outlet of the turbomolecular pump that a vibration in the intermediate pump can be transferred to the turbomolecular pump. Furthermore, Conrad discloses that an alternative system could include a dry pump directly connected to the turbomolecular pump (col. 1, ll. 15-19).

However, Conrad does not disclose the following claimed limitations taught by Toshiaki: a method of reducing vibration in a pumped system comprising the steps of measuring a first vibration with a vibration or sway detector 27 attached to a flange 37 of the pump (claim 6), generating a control signal in a controller 10, 14 in response and sending the signal to a magnetic bearing 30 of a rotary device, a turbomolecular pump

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that reduces the pressure in a chamber in a preferred embodiment (Detailed Description, para. [0028-0029]), thereby producing a second vibration, the second vibration being out of phase with the first vibration (fig. 8) so as to negate the undesirable vibration (Detailed Description, para. [0004]).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Conrad with Toshiaki in order to negate any undesirable vibration (Detailed Description, para. [0004]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*PH*

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022/2007

A handwritten signature in black ink, appearing to read "Ehud Gartenberg", with a long horizontal flourish extending to the right.

EHUD GARTENBERG  
SUPERVISORY PATENT EXAMINER